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ABSTRACT

This lesson, one of four stand-alone lessons that examine Australia as an aspect of world history, points out that Australia's unique geographic characteristics and history serve as a useful case study of key global concepts. The lesson focuses on exploration and control of trade routes during the Age of Discovery. The lesson has two parts. In part one, students learn about Portuguese maritime exploration beginning in the late 1500s. The Portuguese dominated the spice trade between Europe and East Asia in the 15th and 16th centuries. In part two, students learn about Dutch and British exploration. The Dutch supplanted the Portuguese, and the British took control of commerce in the area after the 1768 expedition of Captain James Cook. The lesson contains a teacher introduction, three handouts, suggested activities for each part, and follow-up activities. (BT)

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Australian Studies High School Series.

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Australian Education Office, Washington, DC.

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Australian Studies

High School Series

History Unit

Lesson Two: Terra Australis

Materials for Lesson

Starter Map: The world in the late 1500s
Map #1a: Portuguese Map
Map #1b: Eredia's Voyage
Handout #1: Portuguese Exploration
Map #2a: Dutch Map
Map #2b: Tasman's Voyage
Handout #2: Dutch Exploration
Map #3a: British Map
Map #3b: Cook's Voyage
Handout #3: British Exploration

Note:
In preparation for this lesson, the teacher will need a copy of each document for each student. Since Maps #1a - #3b are all on the same page, it is necessary to cut this page into 6 sections before handing the material out to the students.

Objectives

Students will...
- compare the sailing expeditions of the Portuguese, Dutch and English in these waters during the Age of Discovery.
- examine and manipulate historical maps of Australia to develop a sense of how the continent was explored by the Europeans.
- understand problems in navigation and cartography over time.
- evaluate strategic decisions made by the colonial powers.

Teacher Introduction

The following lesson is designed to teach about Australia in the Age of Discovery, and is best run as a "case study", after students have had some time to study this period. This lesson will teach your students about the mechanics of exploration and cartography in this period, as well as the politics which drove the major powers involved. The story of Australia's exploration is of particular use to students of the Age of Discovery, since its geographic isolation meant that the documentation of Australia's coastline took centuries. The exploration of Australia therefore spans the entire period, drawing in explorers from Portugal, Spain, the Netherlands, France and Great Britain, and covering the period from the 16th to the 18th centuries. In that 300 year period, the Scientific Revolution, the Commercial Revolution, the Age of Enlightenment and the Industrial Revolution all played their part in transforming the world. All these developments are manifested in the search for Australia.

This lesson is designed to fit in with the others in the series by connecting the history of Australia to the history of the world. As you will see in this lesson, from the start Australia was a vital part of the larger events taking place around it. A study of this history demonstrates that global issues such as exploration and control of trade routes were extremely relevant, and thus a study of Australia during this period helps students to understand the Age of Discovery from a global rather than a simply European perspective.

Historical Background

Surprisingly, ancient and medieval geographers as far back as Ptolemy (150 AD) expected to find a big continent in the southern hemisphere (they of course knew the world was round) -- a ***terra Australis***, or "land down under". They believed that the weight of all the northern continents -- Europe, Asia and Africa, had to be balanced off by a great continent on the bottom half of the globe. After the discovery of the New World, explorers from many lands began searching for this southern continent, believing it was the key to the control of the Pacific. In the end, they turned out to be right, but for the wrong reasons, and not in the way they expected...

The first explorers in the region were the Portuguese, who dominated the spice trade between Europe and East Asia in the 15th and 16th centuries. Sailing in their graceful caravels, they sought to find and control the routes to the Spice Islands of southeast Asia. Establishing bases at Goa, Malacca and Macau, the Portuguese built a trading network that enriched the royal coffers. The primary goods carried were spices such as pepper and cinnamon, which fetched a high price back home. Portuguese sailors navigated by means of the mariner's compass, astrolabe and quadrant. The Portuguese established bases close to Australia, but never had any real interest in exploring this potential "Southern Continent", as they were more concerned with monopolizing the spice trade than seizing new realms. Furthermore, there was always the problem of Spanish competition. If the Portuguese did discover new lands, they might have to fight for them against a more powerful Spanish Empire. This would be too great a drain on Portuguese resources.

The Portuguese were supplanted by the Dutch, who pioneered new navigation techniques and aggressively seized Portuguese markets. The Dutch were a small republic with a tiny population base, who nevertheless built a great commercial empire.

One of the instruments of Dutch mercantile success was their use of the ***roaring forties*** -- the trade winds of the 40th parallel, which carried vessels from Capetown in Africa to Batavia through the open sea in much less time than would be taken by ships crawling against the winds on a more direct coastal route. Successive Dutch expeditions explored parts of the Australian coast, but declined to attempt any settlement of these lands. Again, the Dutch had no interest in the expense of colonizing a

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new land if there was no significant trade in that land. Furthermore, as the maps show, the winds around Australia were not conducive to exploration of the continent from traditional Dutch sailing routes. They preferred sailing north to Batavia rather than continuing east.

The puzzle was finally completed by the English with the 1768 expedition of Captain James Cook. Armed with new technology for determining longitude at sea, and equipped with the maps of previous expeditions, Cook's voyage of discovery laid to rest the idea of a great southern continent, determining the boundaries of the Australian continent and paving the way for its settlement by British convicts a decade later. Unlike the Portuguese and the Dutch, the British were interested in more than just trade. They were searching for ports that would enable them to dominate the seas, and also needed colonies as an outlet for their growing population. By the 18th century, the Industrial Revolution was just taking hold in England, and the country needed an outlet for its "surplus population". The 13 Colonies in North America provided this outlet until the Revolutionary War, at which time Britain once again had to find a place to put its thousands of convicts, rogues and unwanted citizens. The future settlement of Australia was thus in many ways a coincidence of events.

Note on longitude and latitude: By the Age of Discovery, it was a simple matter to determine the latitude of a ship at sea. You simply calculated the angle of the sun to the horizon at high noon (or alternately, the North Star). This angle yielded the degree of distance of your vessel from the point where the sun cast direct rays on the Earth (which you knew by keeping track of the sun's passage between the Tropics of Cancer and Capricorn over the course of the year). Longitude, however, was much more difficult to determine, as there was no fixed point of measurement. Sailors timed their movement using hourglasses or by floating logs past the ship, but these methods were horribly imprecise. Ultimately, the solution was found by using a ***maritime chronometer***, developed by the Englishman John Harrison in the mid-18th century. By setting the chronometer for the time in the home port, and comparing the moment of its high noon with your high noon at sea, you could determine the difference as the minutes and degrees of your longitude at sea. It works in the same way time zones work across the world. Cook was the first explorer to use this device (for a more detailed account, read Dava Sobel's *Longitude*, a 175 page account of this problem).

Credits

"Map of the world by Hessel Gerritsz", from *A Continent Takes Shape*, William Collins (Australia) Ltd, Egon & Elsie Kunz, 1971.

Sources

- Cook, James, *Captain Cook's Journal*
- Kunz, E. & E., *A Continent Takes Shape*
- Newby, E., *The World Atlas of Exploration*
- Sherry, F., *Pacific Passions: The European Struggle in the Great Ocean in the Age of Exploration*
- Sobel, D., *Longitude: The True Story of a Lone Genius Who Solved the Greatest Scientific Puzzle of His Time*
- Ward, R., *Finding Australia: The History of Australia to 1821*

Follow-up Activities

Students can research Captain Cook's voyage and record what he discovered on the east coast of Australia, particularly Botany Bay. Then, they can examine the question of Britain's convict population. Why were there so many prisoners in Britain in the late 18th century?

Imagining that they represented the British government in the 1780s, they could write a letter recommending the use of Botany Bay as a convict settlement. Why is this choice a favorable location? What resources can be found there? What would be the strategic advantages of building a port at this location? The letter would be debated in the halls of government, so it has to be persuasive!

Alternatively, students who have experienced **The History of an Australian Hunter-Gatherer Culture** lesson in this series could write a story about the first meeting of British colonists and Aborigines, from the point of view of the Aborigines. How might the British have looked to these hunter-gatherers? What might have come out of this first encounter?

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Teacher Notes - Part One: *Portuguese Exploration*

Anticipatory Set

Review with students their conception of European geographic knowledge before the Age of Discovery. What kinds of ships and navigational instruments did they use in the 16th century? What were the important trade routes at this time? What were the goals of explorers and the great powers in this period? Students should give their best answers, and compare them with their findings in this lesson.

Activities

1. Introduce the concept of *terra Australis* – the belief that a great southern continent existed as a balance to those in the northern hemisphere. Discuss the role of Portugal as the first nation to engage in long range exploration. What political and geographic factors made Portugal the first European state to embark on global exploration? (Answers might include its position in the southeast corner of Europe, along the Atlantic rim; and the desire of the Portuguese monarchy to discover an all-water route to the Asian spice territories that would circumvent the Islamic monopoly on this lucrative trade.) If students have not already studied it, teach students about the School of Navigation established by Prince Henry the Navigator in Portugal during the 15th century.

2. In this exercise, students will act as cartographers in the School of Navigation, around the year 1600. It will be their job to record geographic information on maps for the king. They will receive information from their explorers about the southern continent and record it on their maps.

Pass out Starter Map: The world in the late 1500s. Ask the students to identify differences between this map and modern ones, and to mark out the route from Portugal to India and the Spice Islands (modern day Indonesia).

Note:
The most important difference for this exercise is the existence of a "Southern Continent", somewhere to the south of Africa and Asia. Tell the students why cartographers of the period believed in its existence (see Historical Background).

3. Review concepts such as latitude and longitude to prepare them for the exercise (see Introduction). How is latitude determined? Discuss sailing methods of the day, and Portugal's position at Malacca controlling access to the Spice Islands.

4. Pass out Map #1a: Portuguese Map. This is a map of the route to the Spice Islands in the days of Portuguese control. Have the students relate this map to the larger one (it shows islands off the southeast coast of Malaysia, where spices such as pepper and cinnamon grew).

5. Pass out Map #1b: Eredia's Voyage. Tell students this is a map recorded by the Portuguese explorer Manoel Godinha de Eredia in 1600.

6. Pass out Handout #1: Portuguese Exploration. Have them follow the steps indicated, answering questions as needed using the background information already provided.

Check for Understanding

Examine student maps. By the end of this phase of the exercise, the students should have developed some familiarity with maps and map making, as well as the known geography of the area during this period. This will prepare them for a debate on exploration in Part Two. Ask the following questions:

a. Can you draw three conclusions about maps and map-making during this period?
b. How does the completed map fit into a map of the world?
c. How does geography determine the flow of trade?
d. Do other factors also play a role in determining the flow of trade? If so, what are these factors?

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Teacher Notes - Part Two: *Dutch and British Exploration*

Anticipatory Set

What were the goals of Dutch and British commercial exploration in the Age of Discovery? Why was it so important for them to find new shipping routes and markets for trade? How were these countries different from Spain and Portugal during this period? How was maritime technology changing the world in the 17th and 18th centuries?

Activities

1. Teach students the difficulties of determining longitude at sea, as outlined in the Historical Background.

2. In this exercise, students will divide into two rival groups of geographers, one Dutch and one British. They will receive information from explorers and make strategic decisions about where they will concentrate the energies of their empires.

A. Divide the class into two groups.

B. Pass out these attachments.

Dutch group:

- Map #2a: Dutch Map
- Map #2b: Tasman's Voyage
- Handout #2: Dutch Exploration

British group:

- Map #3a: British Map
- Map #3b: Cook's Voyage
- Handout #3: British Exploration

C. Ask the students to follow the instructions on the handouts, alone or in groups. Take questions as they come up.

D. When they are finished, representatives from both groups should make presentations of their findings. They can read their letters recommending Dutch and British policy, or merely get up and summarize their findings.

Check for Understanding

Discuss the following questions with the students. Was this the Southern Continent? (No -- it does not connect with the South Pole, and it is not as big as Asia. If there is a Southern Continent, it is too far south to be habitable.) Who is likely to end up in control of Australia? Why? (The British, because they need a port, have the surplus population with which to build one, and because the Aborigines are not likely to be able to prevent them from doing so.) How does geography shape the history of the continent? (Answers should vary.)

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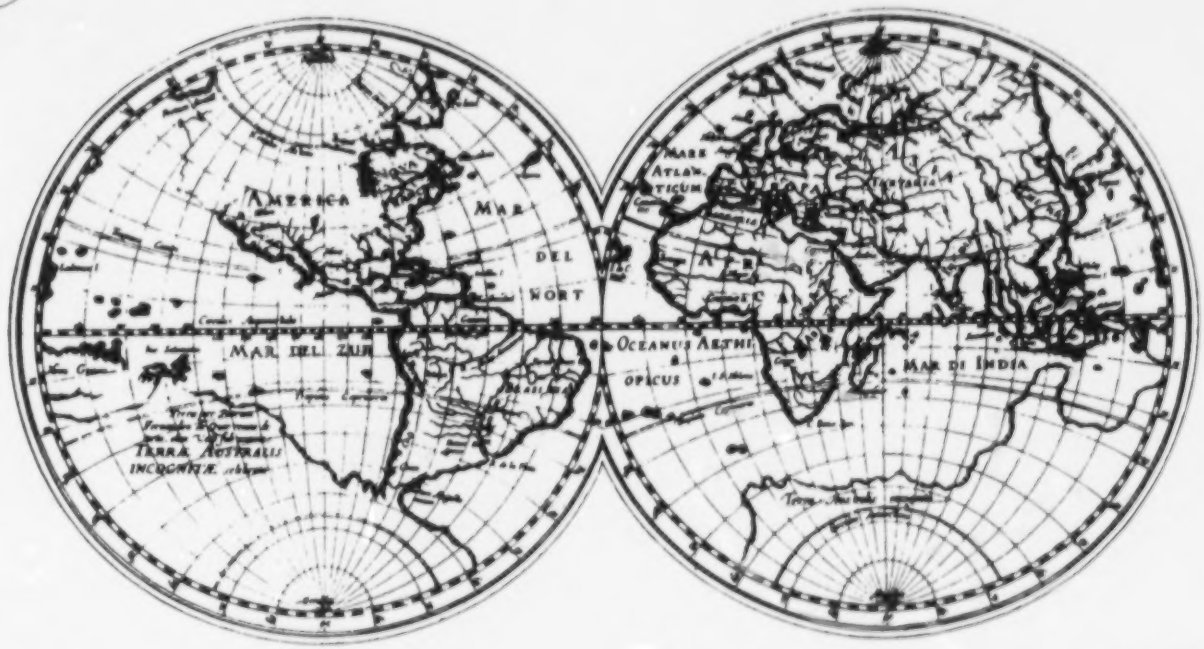
Starter Map: *The World in the late 1500s*



Handout #1: *Portuguese Exploration*

The year is 1600. You are cartographers working for the Portuguese King at the School of Navigation. Your job is to update maps and advise His Majesty on matters relating to the exploration of the world. Your most important job is to protect Portugal's control of trade routes to the Spice Islands, a source of great wealth for the King.

You have just received a map from the sailor Manoel Godinha de Eredia. He was blown south from the island of Timor and reported seeing land to the south. Write a report to the King in which you bring him up to date on the local geography, taking the following steps:

1. Trace Eredia's Voyage (#1b) onto the map marked Portuguese Map (#1a). You can do this by laying the Portuguese map over Eredia's voyage. Line up the island of Timor and the points of latitude and longitude marked on both maps. Trace the newly sighted land into your map.

2. Our geographers believe in the possibility of a great "Southern Continent", as big as Asia, which may lie somewhere in this region. Might this be the Southern Continent?

3. Eredia reports no signs of cities, kingdoms or anyone else who might be willing to trade for spices. Nor were there signs of large populations of heathens which we could convert to our faith, Christianity.

Consider that the Spanish are beginning to compete with us in these waters. If we discover a great Southern Continent, we will have to fight them for it. Portugal is a small country with limited resources. Should we try anyway? Why or why not?

4. Is this land a convenient stopping place for our ships bound east from Malacca to the Spice Islands? Why or why not?

5. In your report, make a recommendation to the King. Should he invest money, ships and men into further exploration in these waters? Why or why not? What would be the wisest course of action? Give specific reasons!

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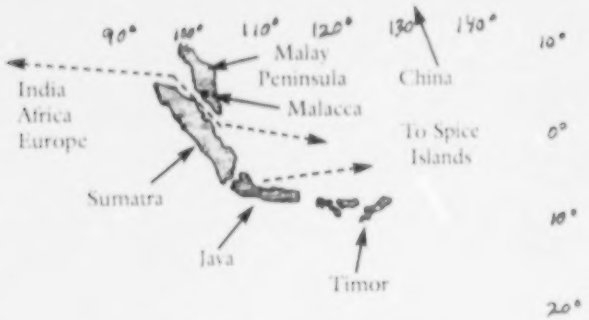
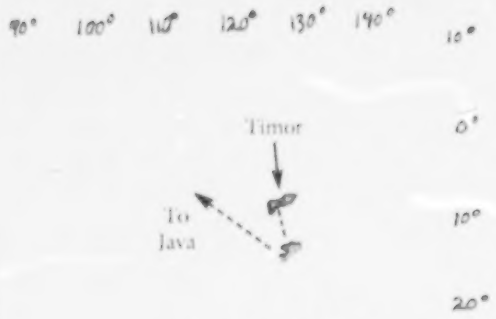
Maps #1a - #3b

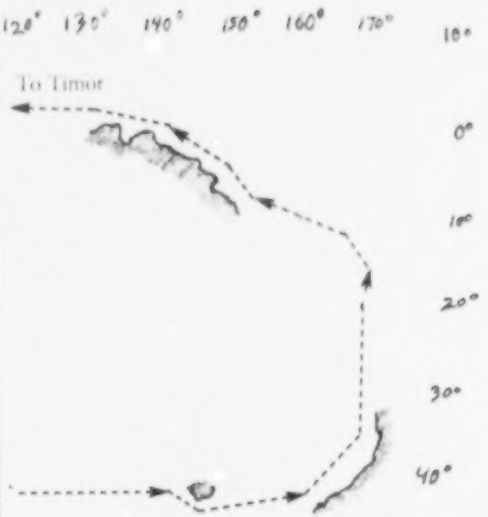


#1a - Portuguese Map

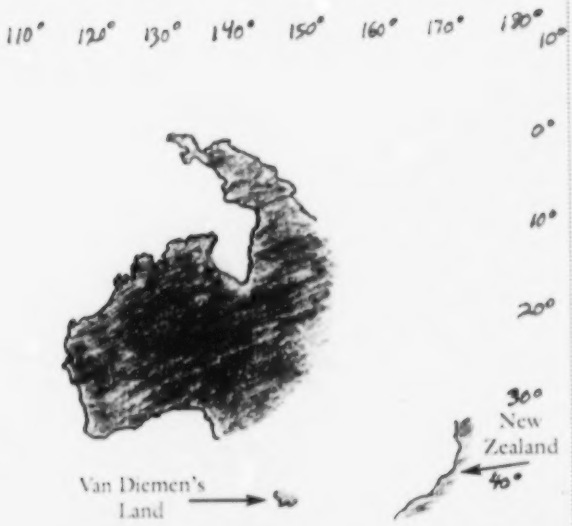


#1b - Eredia's Voyage

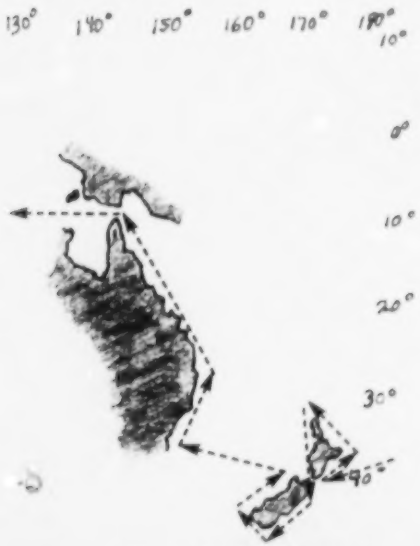
#2a - Dutch Map



#2b - Tasman's Voyage



#3a - British Map



#3b - Cook's Voyage

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Handout #2: *Dutch Exploration*

You are representatives of the Dutch East India Company, in charge of exploration and trade in this region. The year is 1643, and the explorer Abel Tasman has just returned from a voyage of exploration around the mysterious continent of Australia.

1. Trace the Dutch Map (#2a) and Tasman's Voyage (#2b) on the space provided at the bottom of this page by tracing them both through the paper. Have you found the great Southern Continent, which has always been believed to extend down to the South Pole?

2. Our sailors use something called the "Roaring Forties", a belt of winds along the fortieth degree of latitude, to travel across the Indian Ocean faster than you could if you followed the coast from Africa. Near the west coast of this continent, our ships turn north to reach the Spice Islands, where we buy spices from the chiefs of the local civilizations for sale back in Europe. Can you trace this route on your map? Can we find a shorter route to the Spice Islands or any other rich trading area by going the way Tasman did?

3. Tasman reports that he saw no evidence of cities or rich civilizations along the coast of this continent, only the cooking fires of small bands of nomads. Should we dispatch ships to trade with them, or should we continue to concentrate on the spice trade? Why or why not?

The Netherlands is a small country with a small population. Do you think we can persuade some of our people to go to this place as colonists? Why or why not?

4. An astrolabe, a device that measures the position of stars in the sky to determine a ship's latitude, was used by the Dutch at sea. Is this enough to accurately record points on a map? Why or why not?

5. Write a report to the stockholders of the Dutch East India Company in which you detail your findings and advise them on whether or not this "Terra Australis" has profit potential for the near future. Give specific reasons to support your argument.

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Handout #3: *British Exploration*

You are members of the Royal Geographic Society of Britain. It is your job to record information collected by the esteemed Captain James Cook. He was sent out in 1768 to explore the east coast of Australia and determine once and for all its boundaries, settling the question of whether it was the Southern Continent.

Write a report to King George, and remember we need to give him an accurate map as well as recommendations on what to do with the discovery. Your report should consider the following:

1. Trace Cook's Voyage (#3b) into your British Map (#3a) as you did for the Portuguese. Does this give us a comprehensive picture of the mystery continent? Can you credit Captain Cook with three major accomplishments in exploring Australia?

2. If this is the so called Southern Continent, it should extend southward to the South Pole. Does it? What does this mean?

3. Cook reports that the continent seems to be devoid of cities or any signs of advanced civilization. Should we consider it as a place for trade? Why or why not?

4. Our jails are full of convicts right now, in part because our rising population produces a lot of poor, desperate people. In the past, we often shipped these "undesirables" to the American colonies. However, the Americans are beginning to grow uneasy and troublesome, and may soon refuse to take in prisoners. Might this continent be a good place to put them? Why or why not?

5. We need a naval base in the South Pacific to protect our commercial interests around that ocean. Does the continent seem like a good place to build a port? Would the local inhabitants be able to give us much of a fight if we tried to take it? Explain your answers.

6. Captain Cook used an experimental device called a maritime chronometer in his voyage. By comparing the time on this clock (set to London time) to local time as recorded each noon, he was able to determine the ship's longitude with a high degree of accuracy. Is this important for navigation and cartography?

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Dear Educator:

Thank you for your interest in Australia and this History Unit. This package is designed to provide you with ready-made, stand alone lessons that examine Australia as an aspect of world history. The first question many of you may ask is why Australia? Is the study of Australia relevant to our study of the world and our common heritage? After all, it is isolated, sparsely populated and has a brief recorded history. But it is these very characteristics that makes the study of Australia valuable. Australia's unique geographic characteristics and history serve as a useful case study of key global concepts. The study of the Neolithic period, the Age of Discovery, nationalism, and 20th century global problems have all been chosen as episodes in which Australia's case is an instructive model.

For example, an analysis of Australia in the Age of Discovery brings in all the major players of the period within its own microcosm. Interestingly, Australia is the only continent whose discovery was fully documented. Its gradual discovery took place during a period when people began keeping accurate records leaving us a wealth of primary resources for our analysis. Indeed, much of what we learn about Australia comes from first hand observations.

In many ways Australia stands as a bridge between the past and present; a modern society built within the last 200 years directly on top of the last great link to our hunter-gatherer past. Many faces will emerge as your students examine Australia's history and identity: the Aboriginal past, the European settlement, the creation of a new nationality, and its changing ties to the Pacific rim, the United States and Europe. Australia is still evolving, and a study of its people and history reveals the conflict Australia feels between developed and developing status and Western and Asian ties.

A final point of value in the study of Australia is the historical parallel between Australia and the United States. Both are large countries, colonized by Europeans, who cleared vast wildernesses to build modern, wealthy nations in recent times. It may interest American students to know that Australian history displays many of the same triumphs-and-bitter tragedies as their own. This may help them to see American history as well as Australian history within the same global context. In the end, Australia shows us as Americans that we all share the same global heritage, and not just western heritage.

The Australian Education Office would like to thank Mr. John Waldron for writing lessons one and two, and Ms. Tamara Lipke for writing lessons three and four. We would also like to extend our appreciation to Ms. Jan Lutterbein who reviewed the lessons, Ms. Jill Indyk (Director, Cultural Affairs, Embassy of Australia, Washington, DC), the staff at the Australian Embassy Library in Washington, DC, and the publishers, museums and libraries who granted permission to use their material.

We hope that you find these lessons useful. Please provide us with feedback by completing and returning the questionnaire on the back of this introduction.

John Wells
Executive Director

Lisa Murphy
Australian Studies Officer
Project Manager

Carri Kendrick
Senior Program Associate
Layout & Design

Questionnaire

This is the first Series of its kind and so your input is needed and appreciated.
Please respond at your earlier convenience. Thank you.

Did you teach about Australia before receiving this curriculum? ☐ Yes ☐ No

If yes, what subjects(s) did you teach?
(For example, history, literature, geography, etc.)

If no, why not?
(For example, no resources, not enough time, no interest, no curriculum, etc.)

Which Lessons did you use?

☐ One ☐ Three ☐ None
☐ Two ☐ Four ☐ Created my own using these lessons as the basis.

Did you find the Teacher Introduction comprehensive? ☐ Yes ☐ No

Did you find the Historical Background comprehensive and relevant? ☐ Yes ☐ No

Did you find the Teacher Notes user friendly? ☐ Yes ☐ No

Did you find the Student Handouts user friendly? ☐ Yes ☐ No

What other subjects on Australia would you like to see developed?
(For example, literature, environment, geography, more history, etc.)

Which materials on Australia would you purchase?

☐ Lesson Plans ☐ CD Roms ☐ Maps / Classroom Decor
☐ Videos ☐ Slides ☐

Comments & Suggestions:

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